

MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE COAXIAL,
50 OHMS, M17/217-00001.

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist
of this specification sheet and the issue of the following specification
listed in that issue of the Department of Defense Index of Specifications
and Standards (DODISS) specified in the solicitation: MIL-C-17.

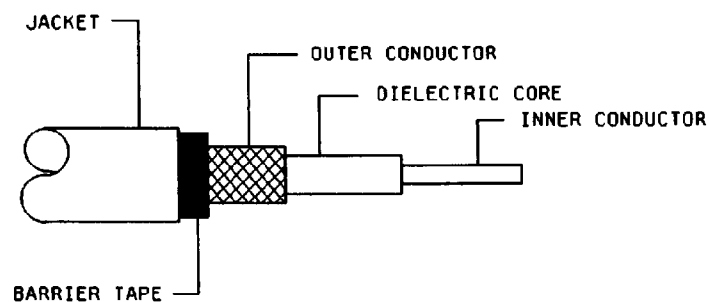


FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Sever strands of copper-covered steel wire, each strand .0063 inch diameter, Diameter: 0.0189 inch \pm .0010.
Dielectric core	Type A-1: Solid polyethylene. Overall diameter: 0.060 inch \pm 0.003.

TABLE I. Description - Continued.

Outer conductor	<p>Single braid of AWG#38, tinned copper wire. Diameter: .088 inch maximum.</p> <p>Coverage: 85.6% nominal Carriers: 16 Ends: 4 Picks/inch 16.3 \pm10%</p>
Barrier tape	<p>A .001 inch thick polyester tape faced with a .002 inch thick layer of aluminum. The tape will be applied with a 50% lap, minimum. Aluminum face toward the outer conductor. Diameter: .093 inch, maximum.</p>
Jacket	<p>Cross-Linked polyolefin. Diameter: .110 inch \pm.005.</p>

CAUTION IS DIRECTED TO THE APPLICATION OF THIS CABLE ABOVE 400 MHZ. ATTENUATION IS TESTED ONLY AT 400 MHZ. SRL AND POWER HANDLING CAPABILITIES ARE NOT STIPULATED HEREIN.

ENGINEERING INFORMATION:

Continuous working voltage: 1,100 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Operating temperature range: -40° to +80°C, maximum.

Inner conductor properties:

DC resistance (maximum at +20°C): 9.67 ohms per 100 feet.

Elongation: 1 percent, minimum.

Tensile strength: 110 klbf/inch/inch, minimum.

Engineering notes: This cable is useful in general purpose medium low temperature applications. (See connector series 'SMA' and 'SMB' per MIL-C-39012. Use this cable in all new designs in-lieu-of MIL-C-17/173.

The US Government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound, the inch-pound units shall take precedence.

REQUIREMENTS:

Dimensions, configuration, and descriptions: See figure 1 and table I.

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 4 pounds, minimum; 12 pounds, maximum.

Aging stability: $+98^{\circ} \pm 2^{\circ}\text{C}$.

Cold bend: $-40^{\circ} \pm 2^{\circ}\text{C}$.

Stress crack resistance: Not applicable.

Dimensional stability:

Inner conductor from core: 0.062 inch, maximum.

Inner conductor from jacket: 0.125 inch, maximum.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged minimum: 50.

Elongation, percent of unaged minimum: 50.

Smoke index: 25 maximum.

Toxicity index: 5 maximum.

Durometer hardness: (Type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: 75 cycles, minimum (jacket only).

Tear strength: 35 pounds per inch minimum.

Heat distortion: 30 percent maximum distortion.

Physical tests on unaged jacket:

Tensile strength: 1,300 psi. minimum.

Elongation: 160 percent minimum.

Physical tests on aged jacket:

Air oven:

Tensile strength, percent minimum: 60.

Elongation, percent minimum: 60.

Hot oil immersion:

Tensile strength, percent minimum: 50.

Elongation, percent minimum: 50.

Tensile strength and elongation: 1,300 psi, 160 percent minimum.

Weight: 1 pound per 100 feet maximum.

Electrical:

Spark test: 2,000 V rms, minimum.

Voltage withstanding: 2,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 1,500 V rms, minimum.

Characteristic impedance: 50 ohms ± 2 .

Attenuation: 25 dB per 100 feet, maximum at .4 GHz.

Structural return loss: Not applicable.

Capacitance: 32.2 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise: Not applicable.

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/217-00001.

CONCLUDING MATERIAL

Custodians:

Army - CR

Navy - EC

Air Force - 85

Review activities:

Army - AR, AT, ME, MI

Navy - AS, MC, OS, SH

Air Force - 11, 19, 80, 99

DLA - ES, IS

Preparing activity:

Navy - EC

Agent:

DLA - ES

(Project 6145-2040-12)